
THE KALART SYNCHROSCOPE

PAT. PENDING

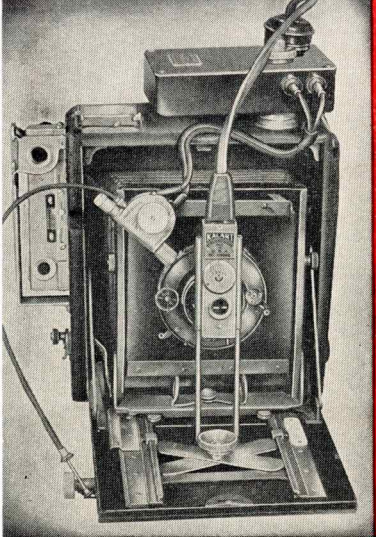
TRADE MARK REGISTERED

- A Synchronizer Tester . . . without the use of bulbs, film, or any other photographic material . . .

Price \$1500

Made in U. S. A. by

The KALART Company
STAMFORD, CONN.



THE KALART SYNCHROSCOPE

*A Visual
Synchronizer
Tester*

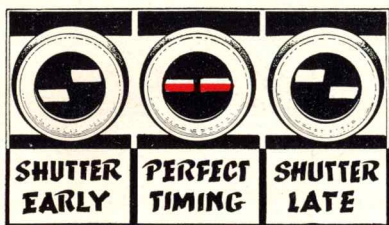
The Kalart Synchroscope is an entirely new device, electrically operated from the battery case of the Photoflash Synchronizer which gives a visual indication of the shutter timing in relation to flash bulb peak intensity. This is accomplished without the use of a flash bulb or other photographic materials.

As illustrated the Synchroscope is fastened in front of the lens and shutter to be tested by sliding the adjustable crossed bars in the camera track. If the camera does not have a focusing track, the synchroscope is placed on a table close to the lens. The viewing window is raised or lowered in height to center with the lens. Electrical connection is established to the battery case by means of the electrical cord extension as shown. The pin projecting from the bottom of the Synchroscope is gently pushed up, the Synchronizer connected to the battery case is wound and the shutter cocked. Set the shutter for a speed of $1/100$ th or $1/200$ th sec.

The back of the camera is then opened and exposed to the light of an electric lamp.

While looking directly into the window of the Synchroscope the shutter is released by means of the synchronizer and two distinct slits of light will be visible while the shutter is open.

The action of these slits is designed to correspond in timing with the firing characteristics of a photo-flash lamp. Their position as observed indicates whether the shutter is opening with the peak of the flash or whether it is opening too early or late.



As the Synchroscope is much more critical than any other form of tester, we have incorporated within it a field of red which covers the safety margin for synchronization. If the photographer sees any portion of this red area within the slits of the Synchroscope while making the test, *the synchronizer adjustment is correct*. If no red is visible and the right slit appears higher than the left, *the shutter is opening too early*. The Synchronizer is therefore adjusted by decreasing the spring tension behind the plunger, that is, *unscrew the Micromatic feature a point or two*. Then repeat the test and adjust the Synchronizer until the desired position of the two slits is attained. If the right slit is lower, the shutter is somewhat late in opening and the Synchronizer can be adjusted to advance the shutter action by turning the milled ten-

sion knob down a point or two. Take at least four tests. Reset pin by pushing it up for every test.

With some shutters a different synchronizer adjustment may be necessary for a speed of $1/100$ th sec. than for a speed of $1/200$ th sec., although in most cases if adjusted for $1/200$ th sec. it will operate at all shutter speeds.

The adjustment dial on the Synchroscope has been factory set (at No. 4) to correspond with flash bulbs having a time lag of approximately .020—.021 milliseconds. Since most lamps manufactured today have a uniform lag, this adjustment need not be disturbed.

If a satisfactory test cannot be obtained within the range of the synchronizer adjustments, the battery is probably weak and requires replacement.

Fresh batteries for use with most Synchronizers should read 4.5 volts when tested with a volt meter. Many used batteries will retain or rebuild to this voltage even when in a weakened condition. A simple method of determining the true condition of the battery is to connect a resistance or load to it while taking a volt meter reading. The Synchroscope may be used as a load by connecting it and the volt meter to the battery. The Synchroscope pin should be held up to keep the circuit closed while the cable release or Synchronizer button is being pressed. Keep the circuit closed only long enough to take the reading; *otherwise the battery drain is too great.*

A fresh battery which reads 4.5 volts without a load should read approximately 2.7 volts with this load. A used battery which reads 4.5 without a load may read 1.5 volts with a load. If the latter reading should fall below 1.5 volts then it indicates the need for a battery replacement.

This device cannot be used to test synchronizers with focal plane shutters.